CLAIMS

1. A polypeptide, characterized in that:
   - it is constituted by a unique or repeated peptide motif; and
   - it comprises an amino acid sequence endowing it with the capacity to penetrate into cells and, if necessary, to transport thereto a substance of interest.

2. A polypeptide characterized in that:
   - it is constituted by a unique or repeated peptide motif;
   - it comprises an amino acid sequence constituted by one or more different antibody fragment(s); and
   - it is capable of penetrating into cells.

3. A polypeptide according to claim 1 or claim 2, characterized in that it comprises all or a portion of a hypervariable region of an antibody.

4. A polypeptide according to claim 1 or claim 2, characterized in that it comprises a fragment of a heavy antibody chain.

5. A polypeptide according to claim 4, characterized in that it comprises all or a portion of the CDR3 region of an antibody.

6. A polypeptide according to claim 4 or claim 5, characterized in that it comprises all or a portion of the CDR2 region of an antibody.

7. A polypeptide according to claim 5 or claim 6, characterized in that it comprises all or a portion of the CDR3 region and all or a portion of the CDR2 region of an antibody.

8. A polypeptide according to claim 7, characterized in that it essentially consists of a fusion between the

CDR3 region of an antibody and the CDR2 region of an antibody.

9. A polypeptide according to any one of the preceding claims, characterized in that it comprises at most 100 amino acids.

10. A polypeptide according to claim 9, characterized in that it comprises 3 to 60 amino acids, preferably 3 to 30 amino acids.

11. A polypeptide according to any one of the preceding claims, characterized in that the antibody fragment is a fragment of an antibody capable of penetrating into cells.

12. A polypeptide according to claim 11, characterized in that the antibody fragment is a fragment of a polyreactive antibody.

13. A polypeptide according to claim 12, characterized in that the antibody fragment is a fragment of an anti-DNA antibody.

14. A polypeptide according to claim 1 or claim 2, characterized in that it comprises a region with a sequence selected from SEQ ID n° 1, 2, 3 and 8, or any functional homologue.

15. A polypeptide according to any one of the preceding claims, characterized in that it further comprises a region composed of basic amino acids, in particular lysine.

16. A polypeptide according to claim 1, characterized in that the amino acid sequence is capable of being obtained by screening a peptide library for cell penetration.

17. A polypeptide characterized in that it comprises a polylysine region and a region derived from a

penetrating polyreactive antibody, and in that it is capable of penetrating into cells.

18. A polypeptide according to any one of claims 1 to 17, with the capacity of reacting *in vitro* with anionic macromolecules such as double or single strand RNA, DNA, or with cationic macromolecules such as histones.

19. A polypeptides according to any one of claims 1 to 17, with the capacity of reacting *in vitro* with heparin and heparin sulphate.

20. A polypeptide according to claim 1 or claim 2, characterized in that it is also capable of causing a substance to penetrate into a cell.

21. Use of a polypeptide according to any one of the preceding claims, for preparing a composition intended to transfer substances into cells.

22. Use of a polypeptide according to any one of claims 1 to 20 for the preparation of an antiviral composition.

23. A polypeptide according to any one of claims 1 to 20, characterized in that it is coupled to a substance.

24. A vector for transferring a substance into a cell, characterized in that it comprises a polypeptide according to any one of claims 1 to 20 to which said substance is coupled.

25. A vector according to claim 24, characterized in that the coupling is a covalent coupling.

26. A vector according to claim 25, characterized in that coupling is effected by a covalent maleimide, succinimide, peptide, disulphide, amine, acid, biotin-streptavidin or p-benzoquinone covalent type bond.

27. A vector according to claim 24, characterized in that said substance is a nucleic acid.

28. A vector according to claim 24, characterized in that said substance is a protein.

29. A vector according to claim 24, characterized in that said substance is a drug.

30. A vector according to claim 24, characterized in that said substance is an antigen.

31. A eukaryotic cell containing a polypeptide according to any one of claims 1 to 20.

32. A eukaryotic cell containing a vector according to claim 21.

33. A method for transferring a substance into a cell *in vitro*, *ex vivo* or *in vivo* comprising:

- coupling said substance to a polypeptide as defined in claim 1, 2 or 17; and
- incubating the cell with the product of said coupling.

34. A method according to claim 33, characterized in that the cell is incubated with the coupling product in the presence of glycerol.

35. A pharmaceutical composition comprising a vector according to claim 24 in which the substance is an active principle of a drug, in association with a physiologically acceptable vehicle.

36. A vaccine comprising a vector according to claim 24 in which the substance is an antigen, in association with a physiologically acceptable vehicle.

37. An antiviral composition comprising a polypeptide according to any one of claims 1 to 20 or an antibody or an antibody fragment according to claim 13.

38. Use of an antibody or antibody fragment according to claim 13 for the preparation of an antiviral composition.

39. Use according to claim 38, characterized in that the antibodies are monoclonal antibodies.

40. Use according to claim 22 or claim 38, in combination with an antiviral agent.

41. Use according to claim 22 or claim 38, characterized in that the virus is the human acquired immunodeficiency virus (HIV), a polio virus, a herpes virus or a cytomegalovirus.

42. A method for modifying a cell with the aim of improving the resistance of that cell to a virus, comprising bringing said cell into contact with one or more polypeptides according to any one of claims 1 to 20, or polyreactive antibodies or antibody fragments having the capacity to bind DNA.

43. A composition comprising cells incubated *ex vivo* in the presence of one or more polypeptides according to any one of claims 1 to 20 or antibodies or antibody fragments as defined in claim 13.

44. A composition according to claim 43, characterized in that the cells are human peripheral blood mononuclear cells.

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